

FIG.1

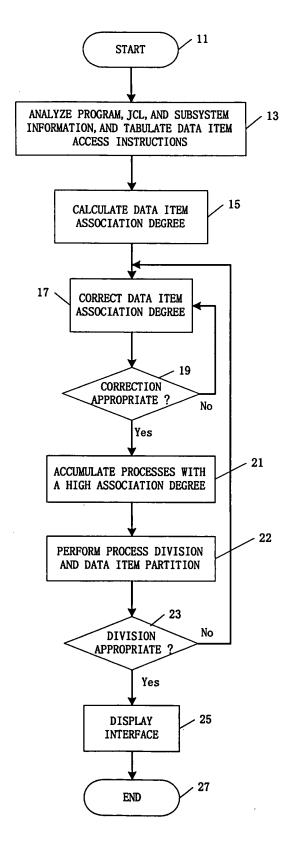


FIG.2

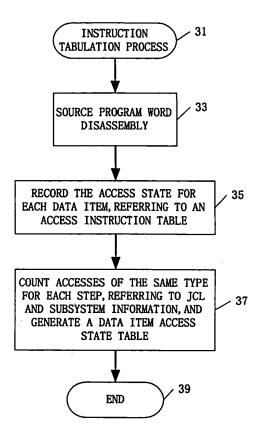


FIG.3

| PROGRAM | SECTION | STEP | DATA ITEM | ACCESS TYPE |
|---------|---------|------|-----------|-------------|
| Pgm11 | Sec111 | 1 | D11 | READ |
| Pgm11 | Sec111 | 1 | D12 | READ |
| Pgm11 | Sec111 | 4 | D11 | UPDATE |
| Pgm11 | Sec111 | 4 | D12 | UPDATE |
| Pgm11 | Sec111 | 4 | D22 | UPDATE |
| . • | • | | • | • |
| • | • | | • | • |
| • | | | • | • |

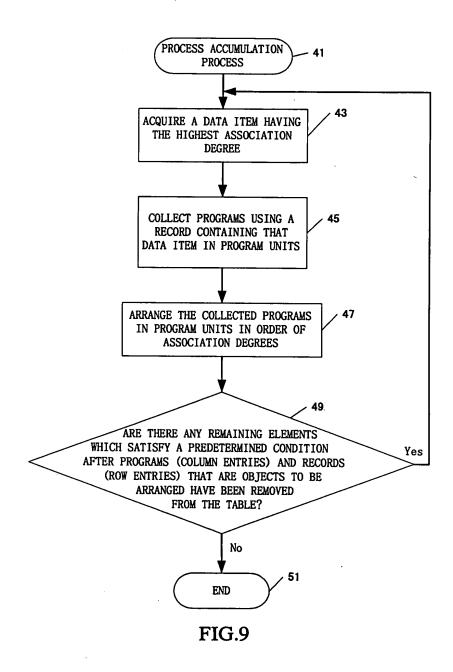
FIG.4

| | SYSTEM | MEI | SystemA | ¥ | | | | | | | | | | | | | | | | | | | | | | |
|-----|------------|-----------|---------|---|---|---|-----|---|-------|--------|-----|--------|--------|----------|------|--------|----------|----------|--------|----------|----------|--------|---|---|----------|---|
| | SOB BOL | | Job1 | | | | | | | | | | | | Spek | R | | | | | Stob | a | | | | |
| | Š. | PROGRAM | Pgm11 | _ | | | | | | ı | | Pg | Pgm12 | | P. | Pgm21 | | | Pgm22 | | <u></u> | Pgm31 | | | | |
| | SECTION | NOL | Sec111 | = | | | | | Ş | Seo112 | | 8 | Sec121 | | 8 | Sec211 | | 8 | Se0271 | | . | Sec311 | | | | |
| | STEP. | Ps. | + | 2 | 8 | * | ις: | 9 | 1 | 89 | 1 8 | 10 | # | 12 | £ | 4 | 15 | 16 | 1 21 | 8 | 65 | 8 | 2 | 8 | 2 | 8 |
| FLE | REC | DATA | | | | | | | | | | | | | | | | 1 | | - | | } | | | | |
| Œ | Æ | 110 | 25 | | | 5 | | | 25 | | | igwdap | | <u> </u> | Æ | | | ₩. | _ | <u> </u> | 5 | ļ | | | | |
| | | D12 | R | | | 5 | | | | | | | | | | | <u> </u> | | | | 5 | ļ | | | | |
| | | МЗ | | | | | | | | | | æ | · | | | 뀕 | ļ | | | <u> </u> | | | | | <u> </u> | |
| | | D14 | | | | | | | | | | | | | | | 5 | | | <u> </u> | ₹ | | | | | |
| | 22 | 120 | | | | | | | | | | | | | | | | | | | | 5 | | | | |
| | | 220 | | | | 5 | | | | | | | | | | | | <u> </u> | | | | 5 | _ | | | |
| Ľ | 22 | 15 | | | | | | | \$ | | | | | | | | | | | | | | 5 | | | |
| | | 250 | | | | | | | 2 | ร | | | | | | | | 2 | | | | | 5 | | | |

FIG.5

| | | ASSOCIATION | RELATIONS | SHIP | | |
|-------------|----------------|-------------|-----------|--------|--------|----------|
| | | REFERENCE | UPDATE | CREATE | DELETE | REDEFINE |
| ASSOCIATION | FILE | 1 | 5 | 10 | 10 | |
| MEDIUM | CALL PARAMETER | 2 | 7 | 12 | 12 | |
| | COPY PHRASE | 3 | 9 | | | 20 |
| | LOCAL VARIABLE | 50 | 60 | | | 90 |

FIG.6



| • | SYSTEM | 75 | SystemA | ¥ | | | | | | | | • | | | | | | | | | | | | | | | |
|-------------|--------|-----------|---------|---|---|---|---|---|---|----------|--------|----------|----|----------|----|-------|----------|----------|----------|----------|----|--------|----------|----|---|---|----|
| | 80g | | Job1 | | | | | | | | | | | | | 29 PS | OJ. | | | | | 5405 | | | | | |
| | 8 | PROGRAM | Pen11 | _ | | | | | | | | | P. | Pent2 | | Pgm21 | মূ | | 9 | Pgm22 | | Pgm31 | <u>ه</u> | | | | |
| · · · · · · | SEC | SECTION | Sec111 | _ | | | | | | 3 | Sec112 | | 8 | Sec121 | | Š | Sec211 | | å | Sec221 | | Sec311 | Ξ | | | | |
| | STEPs | . | 1 | 2 | • | 7 | 2 | | 9 | 7 | 9 | | 2 | # | 12 | £ | 4- | 5 | 16 17 | 7 18 | 19 | 8 | 24 | ผ | ន | 2 | 83 |
| FILE | REC | DATA | | | | | | | | | | ļ | | | | | ļ | | | | | | | | | | |
| E | RI | D11 | - | | | 2 | | L | | <u> </u> | 10 | <u> </u> | | <u> </u> | | Ļ. | <u> </u> | | <u> </u> | <u> </u> | | 49 | | | | | |
| | | O12 | - | | | 5 | | | | | | | | | | | - | <u> </u> | | | | 160 | | | | | |
| | | B3 | | | | | | ļ | | | | | | 1 | • | | _ | 9 | | | | | | | | | |
| | | 94 | | | | | | | | | | | | | | | | | 10 | | | - | | | | | |
| | 84 | 뙲 | | | | | | | | | | | | | | | | | | | | | 9 | | | | |
| | | 8 | | | | 5 | | | | | | | | | | | | | | | | | 9 | | | | |
| 22 | 83 | ğ | | | | | | | | 2 | _ | | | | | | | | | | | | | 9 | | | |
| | | 252 | | | | | | | | 5 | 8 | | | | | | • | | 9 | _ | | | | 10 | | | |

FIG 7

| | SYSTEM | TEM | System | Р ШФ | | | | | | | | | | | | | | | | | | | | | | | | |
|------|--------|---------|--------|-------------|---|---|----|----|---|---|--------|-----|----|---------|----|----|--------|----|----|--------|----|----|--------|----|---|---|----|-----|
| | So. | | Job1 | | | | | | | | | | | | | | Job2 | | | | | | Jobs | | | | | |
| | PRO | PROGRAM | Pgm1 | _ | | | | | | | | | | Pen12 | | | Pgm21 | _ | | Pgm22 | ಒ | | Pgm31 | _ | | | | |
| | 2 | SECTION | Sect1 | = | | | | | | _ | Sec112 | | | Sec 121 | _ | | Sec211 | _ | | Sec221 | F: | | Sec311 | - | | | | |
| | STEP. | P. | - | 8 | 6 | | 7 | 40 | • | 7 | 60 | 8 | 10 | 11 | 12 | ₹. | 7 | 15 | 16 | 11 | 18 | 19 | ន | 22 | 8 | ន | 24 | প্র |
| FILE | REC | DATA | | | | | | | | | | | | | | | | | | | | |] | | | | | |
| E | Æ | 퍼 | - | | | | 2 | | | | 5 | | | | | | - | | | - | | | N | | | | | |
| | | D12 | + | | | | 10 | | | | | | | | | | | | | | | | 5 | | | | | |
| | | Df3 | | | | | | | | | | | | - | | | | 5 | | | | | | | | | | |
| | | D14 | | | | | | | | | | | | | | | | | ю | | | | 1 | | | | | |
| | 24 | 120 | | ** | | | | | | | | | | | | | | | | | | | | 10 | | | | |
| | | 220 | | | | - | 9 | | | | | | | | | | | | | | | | | 10 | | | | |
| 82 | ន | 1831 | | | | | | | - | | ន | | | | | | | | | | | | | | ន | | | |
| | | 22 | | | | | | | | | 8 | 100 | | | | | | | | 8 | | | | | 8 | | | |

FIG.8

| | SYSTEM | TEM | SystemA | Ame | | | | : | | | | | | | | | | | | | | | | | | | | |
|-----|--------|------------|---------|------------|---|---|----------|----------|----------|---|--------|----|----|--------|---|---|---|---|---|--------|----------|----------|--------|----|-------------|--------|----|----|
| • | gos | | Job1 | | | | | | | | | | | Jobs | | | | | | Jobs | | | Job1 | | Ť | Jobs | | |
| | PRO | PROGRAM | Pgm11 | = | | | | | | | | | | Pgm31 | _ | | | | | Period | | | Pgm12 | | | Pgm21 | | |
| | 238 | SECTION | Sec111 | = | | | | | | | Sec112 | ~ | | Sec311 | _ | | | | | Sec221 | | | Sec121 | | | Sec211 | | |
| | STEPs | æ | 1 | | ~ | • | 4 | ٠, | • | ~ | - | 6 | 10 | 8 | N | 8 | ន | 2 | ĸ | 4 | 18 | 19 | 11 | 12 | 13 | * | \$ | 16 |
| FLE | REC | DATA | | | | | | | | | | | | | | | | | 1 | | | | | | | | 1 | |
| FI | ₽ | D11 | 1 | | | | 10 | | | | 10 | | | 10 | | | | | | - | _ | | | - | | - | | |
| | | D12 | 1 | | | | 2 | | | | | | | 40 | | | | | | | \vdash | | - | | | - | | |
| | | DH3 | | | | | | | | | | | | | | | | | | | | | - | | | | 2 | |
| | | D14 | | | | | | | | | | | | - | | | | | | | | | - | | | | | 10 |
| _ | 24 | 122 | | | | | | | | | | | | | 9 | | | | | | | - | | | | | | |
| | | 720 | | | | | 10 | | | | | | | | 5 | | | | | | - | | | | | | | |
| 22 | \$2 | 183 | | | | | - | | | | ล | | | | | ล | | | | | | | | | | | | |
| | | 28 | | | | | \dashv | \dashv | \dashv | | 8 | \$ | | | | 8 | _ | | | 8 | | | | | | | | |

FIG.10

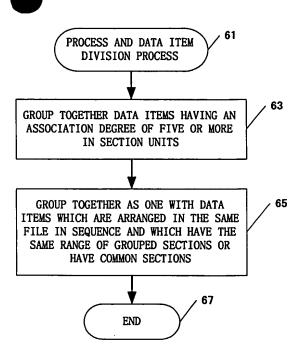


FIG.11

| FILE NAME | DATA ITEM NAME | SECTION NAME |
|-----------|----------------|----------------------|
| F1 | D11 | Sec111,Sec112,Sec311 |
| F1 | D12 | Sec111,Sec311 |
| F1 | D13 | Sec211 |
| F1 | D14 | Seo211 |
| F1 | D21 | Sec311 |
| F1 | D22 | Sec111,Sec311 |
| F2 | D31 | Sec112,Sec311 |
| F2 | D32 | Sec112,Sec311,Sec221 |

FIG.12

| FILE NAME | DATA ITEM NAME | SECTION NAME | |
|-----------|----------------|----------------------|---------------|
| F1 | D11 | Sec111,Sec112,Sec311 | |
| F1 | D12 | Sec111,Sec311 | a |
| F1 | D13 | Sec211 | — |
| F1 | D14 | Sec211 | d |
| F1 | D21 | Sec311 | · |
| F1 | D22 | Sec111,Sec311 | Т —— Ы |
| F2 | D31 | Sec112,Sec311 | - |
| F2 | D32 | Sec112,Sec311,Sec221 | c |

FIG.13

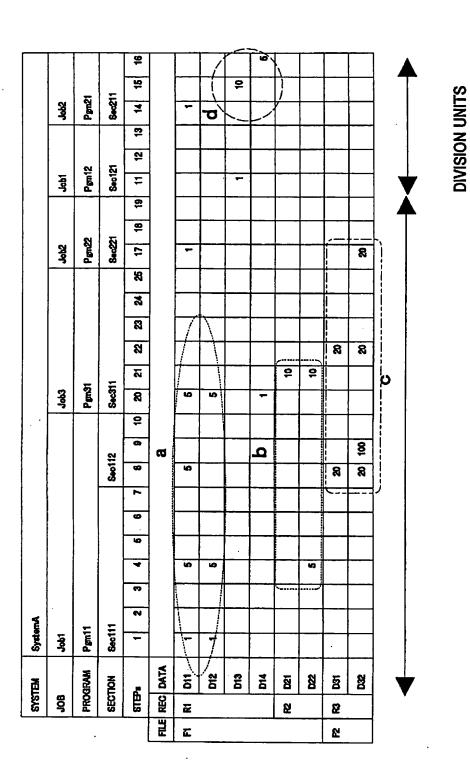


FIG. 14

| | OBJECT | | | |
|-----|-----------------------------|-------------|-----------------|---------------------|
| | obj-1(pgm11,pgm31,pgm22) | | obj-2(pgm12,pgm | 21) |
| | PRIVATE DATA | PUBLIC DATA | PUBLIC DATA | PRIVATE DATA |
| D11 | (REFERENCE, UPDATE) | | (REFERENCE) | |
| D12 | (REFERENCE,UPDATE) | | | |
| D13 | | | | (REFERENCE, UPDATE) |
| D14 | | (REFERENCE) | | (UPDATE) |
| D21 | (CREATE) | | | |
| D22 | (CREATE,UPDATE) | | | |
| D31 | (CREATE, REFERENCE) | | | |
| D32 | (CREATE, REFERENCE, UPDATE) | | | |

FIG.15